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NEW INSECTIVORES, *ELEPHANTULUS* AND *CROCIDURA*, FROM ANGOLA, AFRICA

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Among the insectivores in the collections of the American Museum, secured by the Vernay Angola Expedition, 1925, and purchased from Mr. C. P. Chapman, Luimbale, Angola, 1928, are four apparently new forms. This is the third preliminary paper[1] on the Angolan collections.

As previously, measurements are given in millimeters and color terms are those of Ridgway, 1912, 'Color Standards and Nomenclature.'

Elephantulus intufi mossamedensis, new subspecies

TYPE.—No. 85664 Amer. Mus. Nat. Hist., ♂ adult, skin and skull, from 101 km. E. Mossamedes, Angola (railroad stop). Secured by the Vernay Angola Expedition (Mr. H. Lang, collector, orig. no. 222), July 6, 1925.

GENERAL DESCRIPTION.—A pale race of *E. intufi*, much paler than the race to the east and south, *E. i. alexandri* Ogilby.

COLORATION.—Back paler than cinnamon-buff, more grayish; the individual hairs plumbeous-black basally, followed by a narrow band of tilleul-buff, a band of blackish, then two bands of near cinnamon-buff, separated by a blackish band. Toward the rump the bands become less distinct and paler, the light bands near tilleul-buff. Naked rump patch bordered with numerous pure white hairs. Sides paler than back, becoming nearly cartridge buff next the underparts. (In *alexandri* of the same season and latitude the sides are darker and grayer than pinkish buff.) Postauricular patch near cinnamon-buff (near pinkish cinnamon in *alexandri*). Underparts white, gray-based except around mammae in females; lips white; an extensive white circumocular ring, and a white tuft at the anterior base of the ear-conch. Feet white. Under side of tail whitish to tip.

SKULL.—Agrees closely with that of *E. i. alexandri*.

MEASUREMENTS.—See table, p. 4.

Elephantulus i. mossamedensis probably occurs only between the littoral and the high escarpment of the interior; on the highlands to the east its relative, *E. i. alexandri*, is common.

Crocidura luimbalensis, new species

TYPE.—No. 85071, Amer. Mus. Nat. Hist., ♂ adult, skin and skull, from Luimbale, Angola. Collected by Mr. C. P. Chapman, orig. no. 17, October 7, 1926.

[1] See 1937, Amer. Mus. Novit. Nos, 913, 916.

GENERAL DESCRIPTION.—A medium-sized grayish-brown *Crocidura*, with ears relatively large; tail about half length of head and body; its basal three-fourths with scattered long hairs. Lateral glands well marked, covered with short dirty whitish hairs.

COLORATION.—New winter pelage: upperparts near drab faintly overlaid by bister; underparts near light grayish olive, fairly sharply set off from color of upperparts on the sides.

Worn summer pelage (molting): upperparts slightly duller than cinnamon-buff; underparts brighter than deep olive-buff. Feet pale. Tail, brownish above, dirty whitish below; "bristles" whitish.

SKULL.—Relatively massive. Interorbital region and rostrum broad. Greatest width at an angular ridge lateral to the petrosal bones. Palate extends behind M^3 for more than the antero-posterior length of that tooth. Mandible heavy, with slender angular process.

DENTITION.—First upper incisor with "hook" nearly vertical, rather than procumbent. Third upper unicuspid slightly larger than second, but lower; the entire posterior side closely approximated to the premolar, separated by a slit-like space rather than a medial angular "bay." M^3 moderately developed. Lower unicuspids large.

MEASUREMENTS.—See table, p. 4.

Only a single specimen of this shrew was secured. It appears to be most closely related to *Crocidura beirae* Dollman.[1] The color is different from *beirae* (described as "sepia mottled with neutral gray," worn pelage "near raw umber"), the tail shorter, braincase narrower and shallower, and the teeth smaller.

Crocidura cuanzensis, new species

TYPE.—No. 85558, Amer. Mus. Nat. Hist., ♂ adult, skin and skull, from Chitau, alt. 4930 ft., Angola. Secured by the Vernay Angola Expedition (Mr. Herbert Lang, collector, orig. no. 534), August 10, 1925.

GENERAL DESCRIPTION.—A small, dull brownish *Crocidura*, with white feet. Tail short, whitish, its "bristles" numerous, very fine, and present nearly to the end.

COLORATION.—Upperparts near wood brown, overlying slate gray. Underparts and lower sides near grayish olive (the olive color may be stain). Feet and tail sparsely covered with whitish hairs. Dorsal mystacial vibrissae blackish, ventral ones whitish.

SKULL.—Skull, although small, relatively broad and massive; rostral, interorbital and mastoid breadth being as great as in larger species, such as *turba*. Palate extends short distance behind M^3, less than greatest antero-posterior length of the latter. Interpterygoid region relatively broad.

DENTITION.—First upper incisor moderately recurved, with a poorly developed talon. Third upper unicuspid slightly smaller than second, about height of anterior cusp of premolar. A large right-angled "bay" between canine and premolar on

[1] 1915, Ann. Mag. Nat. Hist., (8) XVI, pp. 69–70.

medial side. M^3 shorter in antero-posterior length and longer in transverse axis than corresponding tooth in *C. jacksoni denti.*

MEASUREMENTS.—See table, p. 4.

Only the type of this species was collected. It appears to be related to *Crocidura katharina* Kershaw[1] but it is darker, larger, with shorter tail. The skull is larger, with longer palate and broader rostrum.

Crocidura chitauensis, new species

TYPE.—No. 85566, Amer. Mus. Nat. Hist., ♀ adult, skin and skull, from Chitau, alt. 4930 ft., Angola. Secured by the Vernay Angola Expedition (Mr. Herbert Lang, collector, orig. no. 429), August 4, 1925.

GENERAL DESCRIPTION.—A small, short-tailed, fawn-colored shrew. Feet small. Tail with extremely delicate "bristle-hairs" almost to tip, pelage short, soft.

COLORATION.—Upperparts fawn color overlying drab-gray, dark neutral gray of bases of the hairs showing through. Underparts pale olive-gray, this color extending up on the sides and including the limbs. Feet whitish. Tail bicolored, above near hair brown, below dirty whitish.

SKULL.—Skull about size of that in *C. jacksoni denti* but more slender in interorbital region and rostrum. Palate short, ending on a level with posterior margin of M^3 (extending considerably behind this in most species). Interpterygoid region long, narrow. Braincase smaller, less rounded than in *C. j. denti.*

DENTITION.—First upper incisor with talon in contact with anterior side of first unicuspid, not functioning as a separate cusp. M^3 shorter in longitudinal axis, larger in transverse axis than in *C. j. denti.*

MEASUREMENTS.—See table, p. 4.

Only the type of this species was secured. Externally it is much like *C. cuanzensis* in coloration and appearance. It is smaller, however, with shorter bicolor tail; the palate does not extend behind M^3; the teeth are smaller. *C. chitauensis* is considerably darker than reported for *C. katharina,* the tail is shorter, but the cranial measurements are quite similar; possibly it may prove to be a race of *C. katharina.*

[1] 1922, Ann. Mag. Nat. Hist., (9) X, pp. 101–102.

	Sex	Head and body	Tail	Hind foot (c. u.)	Skull Condylo-incisive length	Basal length	Palatal length	Length nasals	Zygomatic breadth	Interorbital breadth	Mastoid breadth	Height, basion to inion	Maxillary alveoli	$P^3 - M^2$	Breadth P^4	Outside breadth $M^1 - M^1$
Elephantulus i. mossamedensis, n. subsp. (type) A. M. N. H. 85664	♂	112	123	34	31.4	29.6	18.5	12.5	20.1	7.0	15.0	9.7	13.0	7.7	2.1	11.4

	Sex	Head and body	Tail	Hind foot (c. u.)	Skull Condylo-incisive length	Basal length	Palatal length	Breadth rostrum behind I^1	Maxillary breadth	Interorbital breadth	Mastoid breadth	Height, basion to inion	Length upper tooth row	P^4–M^3	Breadth M^1	Length I^2, anterodorsal margin.
Crocidura luimbalensis, n. sp. (type) A. M. N. H. 85071	♂	103	45	15[1]	[2]	21.4	10.4	3.0	8.1	4.7	10.4	[2]	10.4	5.9	2.4	2.0
Crocidura beirae Dollman. Type [3]	♂	103	55	16	25.3	21.7	10.5		7.8	4.6	10.7	6.8	10.9			
Crocidura cuanzensis, n. sp. (type) A. M. N. H. 85558	♂	82	35	12[1]	20.8	17.7	8.4	2.3	7.3	4.2	9.4	4.9	9.0	5.1	2.2	1.5
Crocidura chitauensis, n. sp. (type) A. M. N. H. 85566	♀	75[1]	30[1]	11.7[1]	20.0	17.0	7.7	2.1	7.2	4.0	8.9	4.9	8.8	5.0	2.2	1.5
Crocidura katharina Kershaw. Type [4]	♂	68	41	11	20.0		7.8		7.1		9.0		8.1			

[1] Remeasured from dry skin.
[2] Injured.
[3] Measurments from Dollman, 1915.
[4] Measurements from Kershaw, 1922.